EUROPEAN COMMISSION
Community Research

EU Research on Climate Change

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EU research: the story so far

1952: ECSC treaty; first projects started March 1955

1957: EURATOM treaty; Joint Research Centre set up

1983: ESPRIT programme

1984: First Framework Programme (1984-1987)

1987: 'European Single Act' – science becomes a Community responsibility;
Second Framework Programme (1987-1991)

1990: Third Framework Programme (1990-1994)

1993: Treaty on European Union;

role of RTD in the enlarged EU

1994: Fourth Framework Programme (1994-1998)

1998: Fifth Framework Programme (1998-2002)

2000: European Research Area

2002: Sixth Framework Programme (2002-2006)

2005: Proposal for the Seventh Framework Programme (2007-2013)

The Historical Perspective of EU Climate Change Research

FP3 & 4: Research on ecosystem functioning, climate and environment protection technologies

FP5: Integration of the environmental dimension in research; more attention to climate change, water, coastal integration and urban dynamics

FP6: Sustainability to be integrated in all areas of research, especially Energy, Transport and Agriculture

FP7: Sustainable management of the environment and its resources, functioning of climate and the earth system, development of new technologies, tools and services

The 6th Framework Programme

- FP6 (2002-2006) is the main instrument of the EC to implement the European Research Area (ERA), a new approach for European and international collaboration.
- Implementation mainly through new instruments: Integrated Projects (IP) and Networks of Excellence (NoE).
- The FP6 is open to partners around the world.

The 3 interrelated pillars of FP6 Priority 6: Sustainable Development, Global Change and Ecosystems

- Sustainable energy systems (810 M€): clean energy, energy savings, alternative motor fuels, fuel cells, energy carriers/transport/storage
- Sustainable surface transport (610 M€): environmentally friendly transport, interoperability, safety
- Global change and ecosystems (700 M€): greenhouse gas emissions, water cycle, biodiversity and ecosystems, natural disasters, land management, climate observation, complementary research, cross-cutting issues

Work Programme on Area I

Impact and mechanisms of greenhouse gas emissions and atmospheric pollutants on climate, ozone depletion and carbon sinks

Research priorities

I.1 Carbon and nitrogen cycles: sources and sinks
I.2 Atmospheric pollutants and their regional impacts
I.3 Climate dynamics and variability
I.4 Prediction of climate change and its impacts
I.5 Stratospheric ozone and climate interactions
I.6 Adaptation and mitigation strategies

FP6 Climate Research Projects 1st Call for proposals, 2003

- ENSEMBLES – IP: Ensemble-based Predictions of Climate Changes and their impacts
- SCOUT-O3 – IP: Stratosphere-Climate Links with emphasis on UTLS
- ACCENT – NoE: Atmospheric Composition Change: A European Network
- CARBOEUROPE – IP: Assessment of European Terrestrial Carbon Balance
- CLARIS-SSA: A Europe-South America Network for Climate Change Assessment and Impact Studies

FP6 Climate Research Projects
2nd Call for proposals, 2004

- CARBOOCEAN – IP: Marine carbon sources and sinks assessment
- AMMA – IP: African monsoon multidisciplinary analysis
- QUANTIFY – IP: Quantifying the climate impact of global and European transport systems
- DYNAMITE – STREP: Understanding of the Dynamics of the Coupled Climate System

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AMMA Integrated Project

African Monsoon Multidisciplinary Analysis

Duration:	5 years
EC support:	11.7 M€ (Total costs: 35 M€)
Objective:	to improve the ability to predict the West African monsoon (WAM) and its impact on intra-seasonal to decadal timescales as well as the consequences of climate change on WAM variability.
Coordinator:	J. Polcher, CNRS, France
Partners:	40 from France, Germany, UK, Spain, Italy, Denmark, Belgium, the Netherlands, Finland, Niger, Senegal and Burkina Faso

FP6 Climate Research Projects 3rd Call for proposals, 2005

- NITROEUROPE-IP: Nitrogen cycle and its interaction with c-cycle
- MILLENIUM-IP: European climate of the last millennium
- DAMOCLES-IP: Developing arctic modelling and observing capabilities for long term environmental studies
- ADAM-IP: Adaptation and mitigation strategies: supporting European climate policy
- OOMPH – STREP: Organics over the Ocean Modifying Particles in both Hemispheres
- MAP – STREP: Secondary Marine Aerosol Production from Natural Sources

4th Call for Proposals, 2006
Climate research topics (Area I)

Publication: 19 July 2005; Deadline: 3 November 2005

1. Atmospheric aerosols and climate forcing (IP, 10 M€)
2. Climate change impacts in the Mediterranean (IP, 10 M€)
3. Regional carbon and greenhouse gas budgets (STREPs/CA)
4. Atmospheric composition change: methane, nitrous oxide and hydrogen (STREPs/CA)
5. Climate changes in Central-Eastern Europe (STREPs/CA)

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Building a Europe of Knowledge

Towards the Seventh Framework Programme 2007-2013

What's new?

Main new elements compared to FP6:

- **Duration** increased from five to seven years
- Annual **budget** doubled (€5 billion → €10 billion)
- Basic research (~ €1.5 billion per year)
- New **structure**: cooperation, ideas, people, capacities
- Flexible funding schemes
- Joint Technology Initiatives
- Simpler procedures
- Logistical and administrative tasks → external structures

FP7 2007 –2013 | Specific Programmes

Cooperation – Collaborative research

Ideas – Frontier Research

People – Marie Curie Actions

Capacities – Research Capacity

+

JRC (non-nuclear)

JRC (nuclear)

Euratom

Cooperation – Collaborative Research

Nine themes

1. Health
2. Food, agriculture and biotechnology
3. Information and communication technologies
4. Nanosciences, nanotechnologies, materials and new production technologies
5. Energy
6. Environment (including climate change)
7. Transport (including aeronautics)
8. Socio-economic sciences and the humanities
9. Security and space

\+ Euratom: Fusion energy research, nuclear fission and radiation protection

6. Environment (inc. climate change)

- Climate change, pollution and risks
- Sustainable management of resources
- Environmental technologies
- Earth observation and assessment tools

Environment (inc. climate change)

- Climate change, pollution and risks
  - Pressures on environment and climate
  - Environment and health
  - Natural hazards
- Sustainable Management of Resources
  - Conservation and sustainable management of natural and man-made resources
  - Evolution of marine environments

Environment (inc. climate change)

- Environmental Technologies
  - Environmental technologies for observation, prevention, mitigation, adaptation, remediation and restoration of the natural and man-made environment
  - Technology assessment, verification and testing
- Earth observation and assessment tools
  - Earth observation
  - Forecasting methods and assessment tools

Environment (inc. climate change)

- Support EU International commitments such as:
  - Kyoto Protocol
  - UN Convention on Biological Diversity
  - World Summit on Sustainable Development
- Contribute to:
  - Intergovernmental Panel on Climate Change (IPCC)
  - Global Earth Observation Initiative (GEO)
  - International Programmes (WCRP, IGPB, etc.)
- Contribute to EU policies such as:
  - 6th Environmental Action Plan and associated Thematic Strategies
  - Action Plans on Environmental Technologies and Environment and Health
  - Water Framework Directive

Ideas – Frontier Research

ERC – European Research Council

Commission

- Approval of work programme, as defined by the Scientific Council
- Instruction to implement work programme
- Approval of annual implementation report
- Information to programme committee

Scientific Council*

- Preparation of work programme
- Set up of peer review: pool of reviewers, nomination of review panels, evaluation guidelines
- Oversight of the evaluation procedure
- Annual scientific report

Externalised tasks**

- Information and support to applicants
- Reception / eligibility of proposals
- Organisation and execution of evaluation
- Selection decision
- Scientific and financial follow-up of contracts
- Annual implementation report

* Created by Commission decision

* * Under the responsibility of the Commission

Towards FP7

People – Marie Curie Actions

- Initial training of researches
  - Marie Curie Networks*
- Life-long training and career development
  - Individual Fellowships
  - Co-financing of regional/national/international programmes
- Industry-academia pathways and partnerships
  - Industry-Academia Knowledge–sharing Scheme*
- International dimension
  - Outgoing & Incoming International Fellowships
  - International Cooperation Scheme
  - Reintegration grants;
  - Support to researcher ‘diasporas’
- Specific actions
  - Mobility and career enhancement actions
  - Excellence awards

*** Open to third-country nationals**

Capacities – Research Capacity

1. Research infrastructures
2. Research for the benefit of SMEs
3. Regions of Knowledge
4. Research Potential
5. Science in Society
6. Activities of International Cooperation
7. Coherent development of policies

6. Activities of International Cooperation

‘Horizontal’ support actions and measures not carried out in the Cooperation or People programmes

Two interdependent objectives:

Support competitiveness through strategic partnerships with third countries in selected fields

Address specific problems that third countries face or that have a global character, on the basis of mutual interest and mutual benefit

Seventh Framework Programme: Objectives and activities

FP7 EC (current prices)

	Themes	Health	Biotech, Food, Agri-culture	Information Society	Nano, Materials, Production	Energy	Environ-ment	Trans-port	Socio-eco-nomic Re-search	Space and Security	
COOPERATION	Collaborative Research	8 317	2 455	12 670	4 832	2 931	2 535	5 940	792	3 960	44 432
IDEAS	**European Research Council**										11 862
PEOPLE	**Marie Curie Actions**										7 129
CAPACITIES	Res. Infrastructures	Research for, and by, SMEs		Regions of Knowledge	Research Potential		Science in Society		International Co-operation		
	3 961	1 901		158	554		554		358		7 486
JRC (EC)											1 817
										Total	**72 726**

€ million

Towards FP7

FP7 Timetable

6 April 2005	Commission's proposal
September 2005	Specific programmes proposal
December 2005?	First reading at EP
January 2006?	Common position at Council
March 2006?	Second reading and approval at EP
June 2006?	Adoption
November 2006?	First calls for proposals
February 2007	Launch conference

Information

- EU research: http://europa.eu.int/comm/research
- Seventh Framework Programme: http://europa.eu.int/comm/research/future/index_en.cfm
- Information on research programmes and projects: http://www.cordis.lu/
- RTD *info* magazine: http://europa.eu.int/comm/research/rtdinfo/
- Information requests: research@cec.eu.int